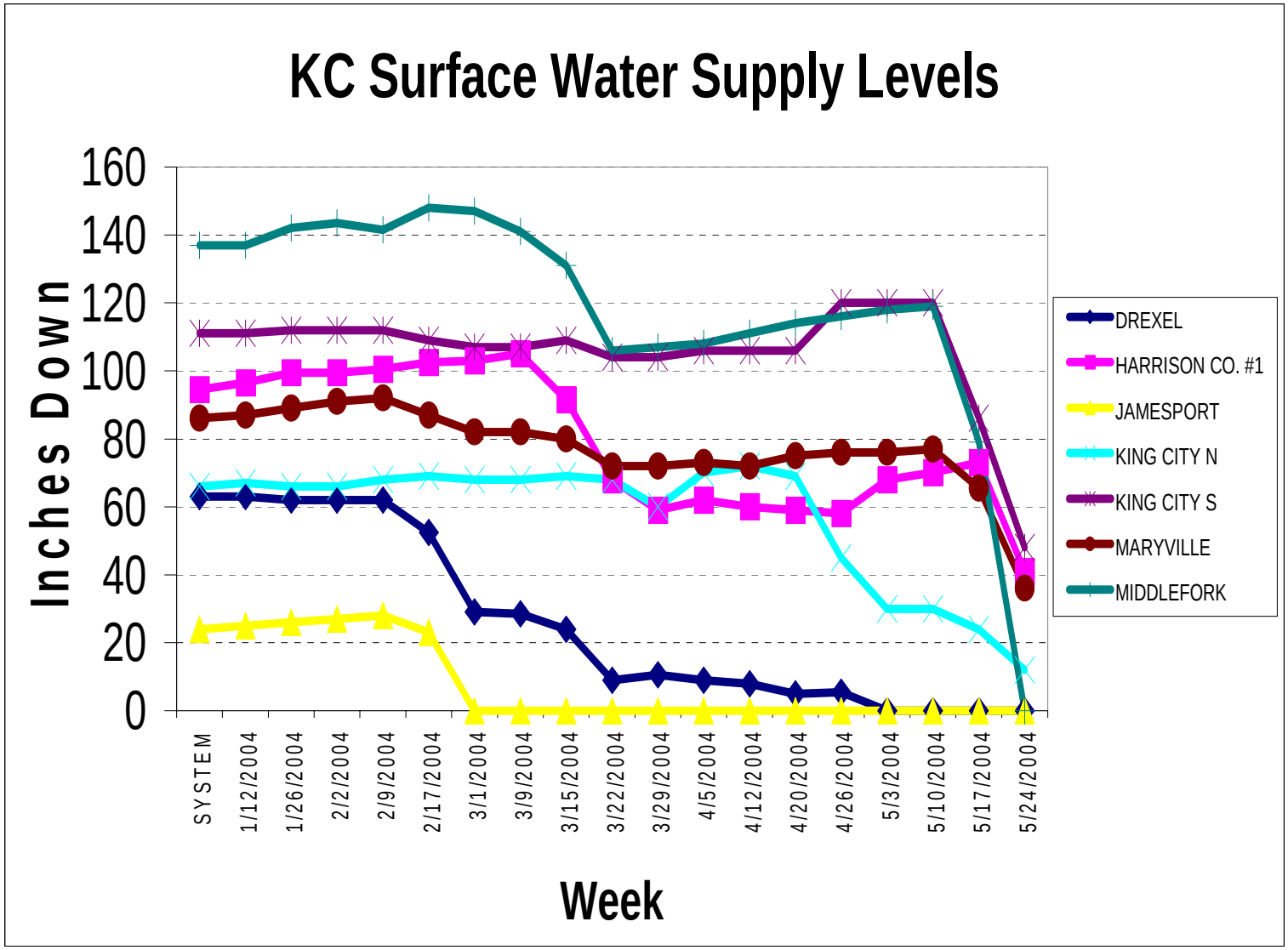
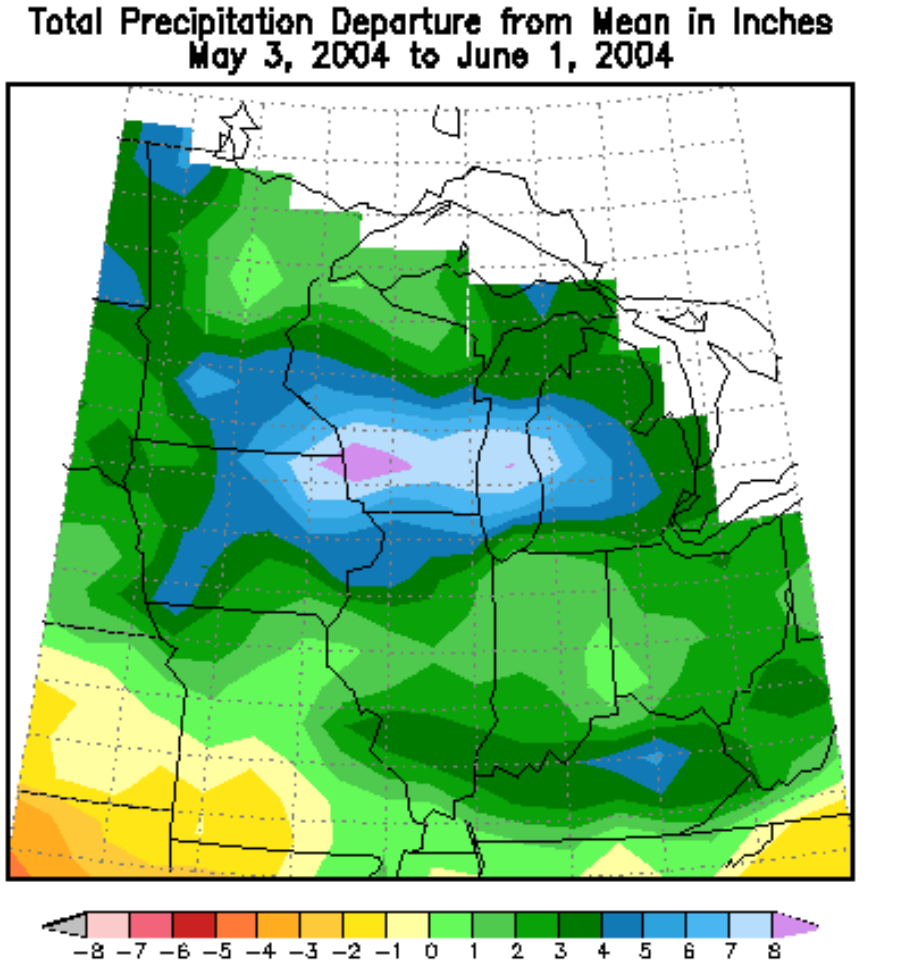
DNR Drought Assessment Committee (DAC) June 3, 2004

Water Resources Program

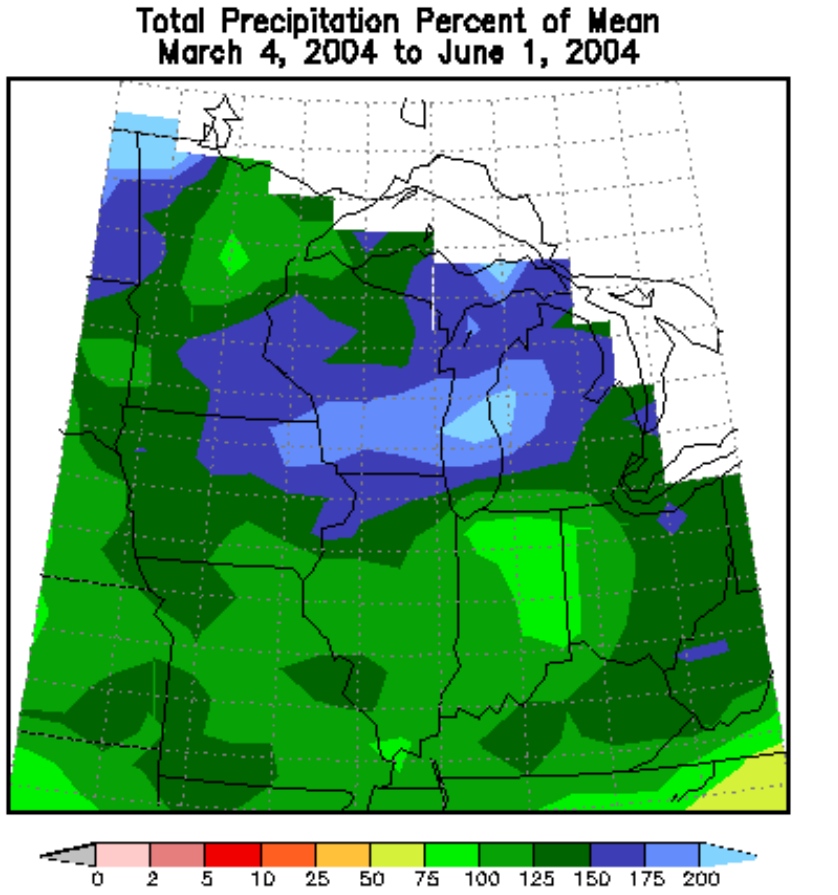
Missouri Department of Natural Resources


KC Surface Water Supply Levels
Inches Down
160
140
120
100
80
60
40
20
0
SYSTEM
1/12/2004
1/26/2004
2/2/2004
2/9/2004
2/17/2004
3/1/2004
3/9/2004
3/15/2004
3/22/2004
3/29/2004
4/5/2004
4/12/2004
4/20/2004
4/26/2004
5/3/2004
5/10/2004
5/17/2004
5/24/2004
Week
DREXEL
HARRISON CO. #1
JAMESPORT
KING CITY N
KING CITY S
MARYVILLE
MIDDLEFORK

Precipitation Departure for the Last 30 Days

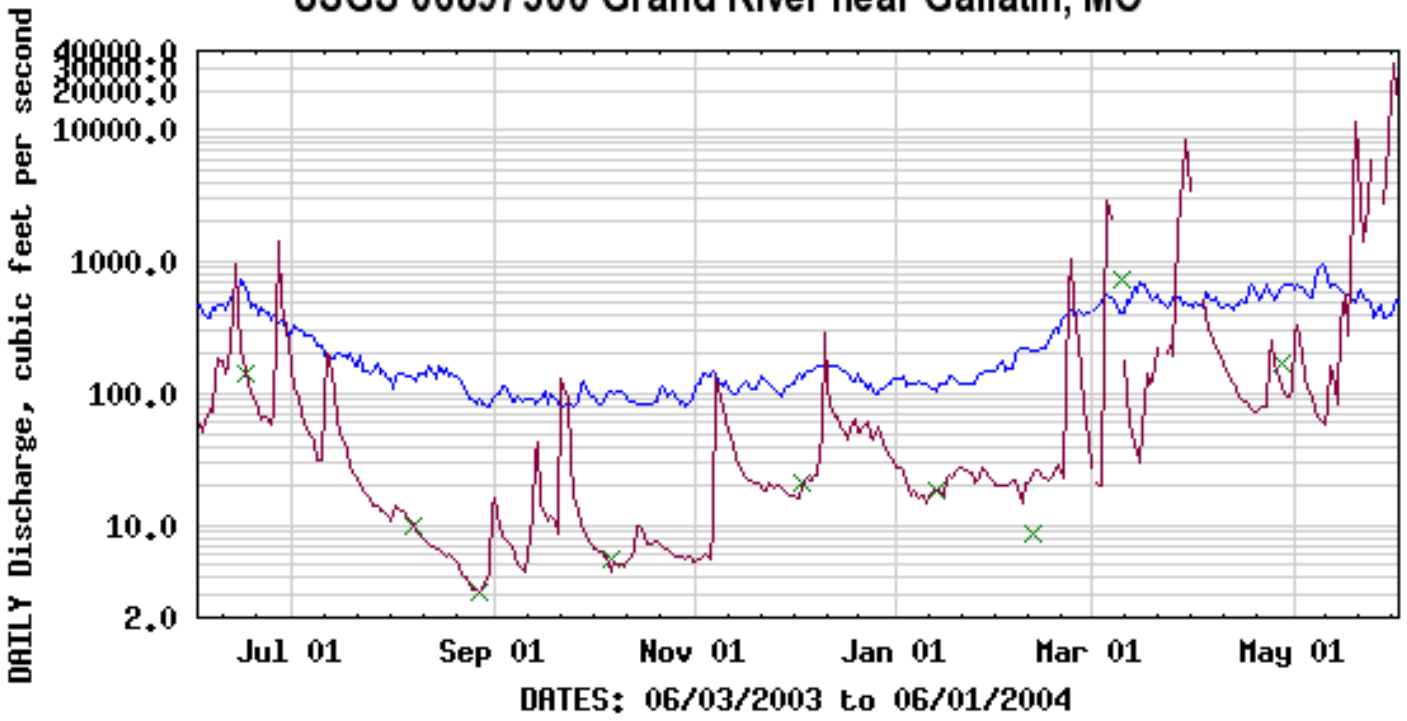


Precipitation Percentage of Normal (90 days)



USGS

USGS 06897500 Grand River near Gallatin, MO



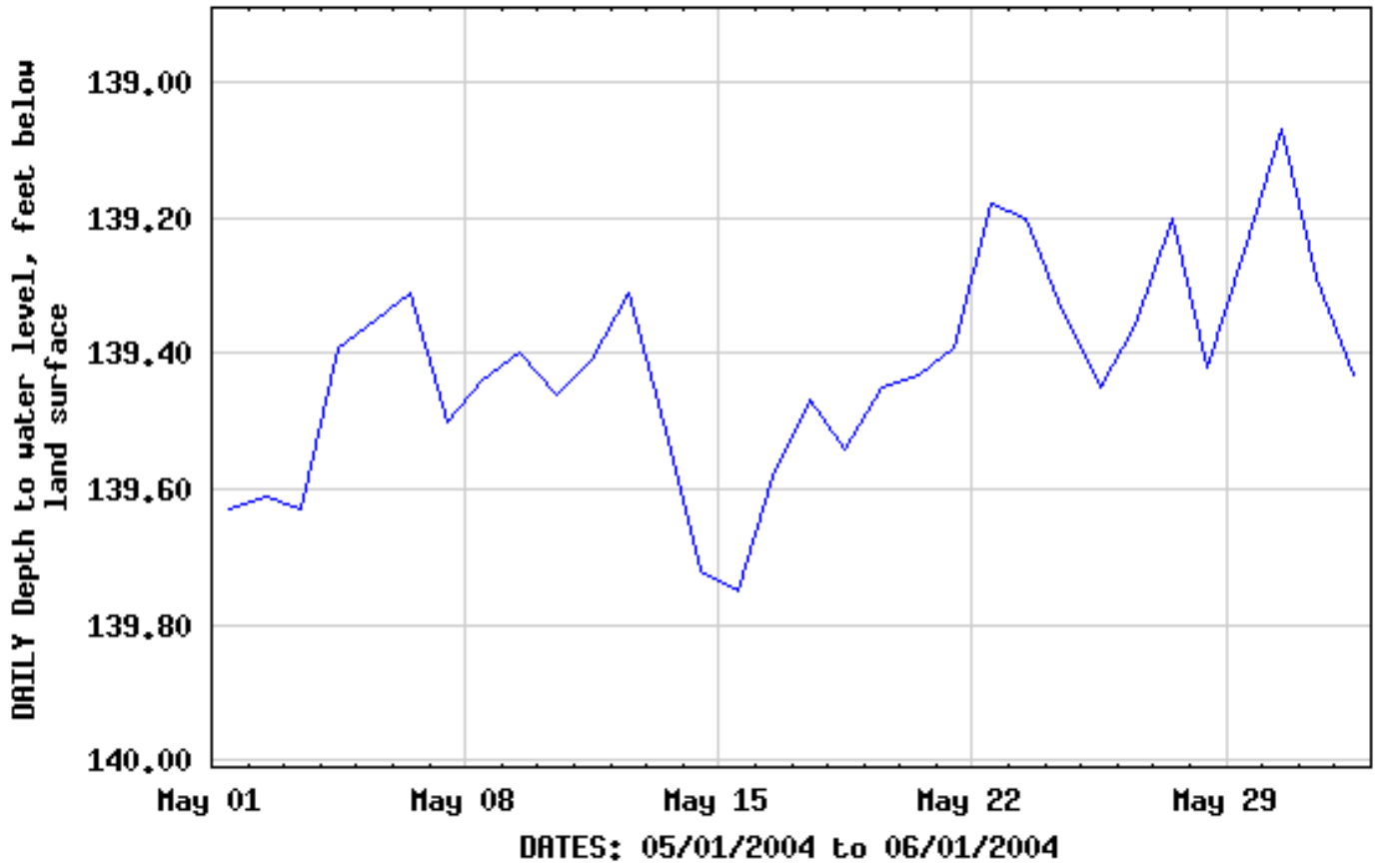
EXPLANATION

- MEDIAN DAILY STREAMFLOW BASED ON 83 YEARS OF RECORD
- × MEASURED Discharge
- DAILY MEAN DISCHARGE

Provisional Data Subject to Revision

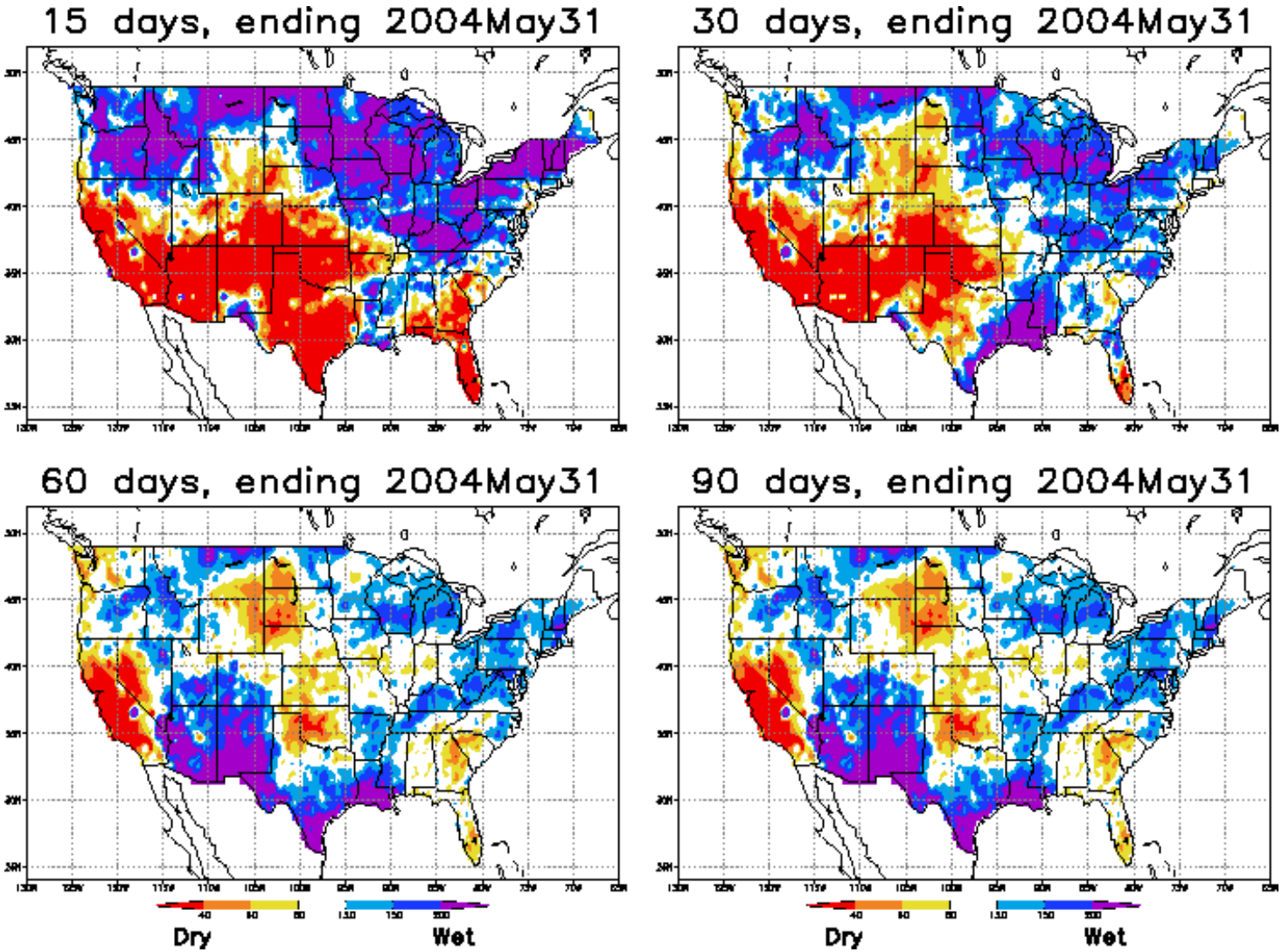
USGS

USGS 400458093582001 Coffey

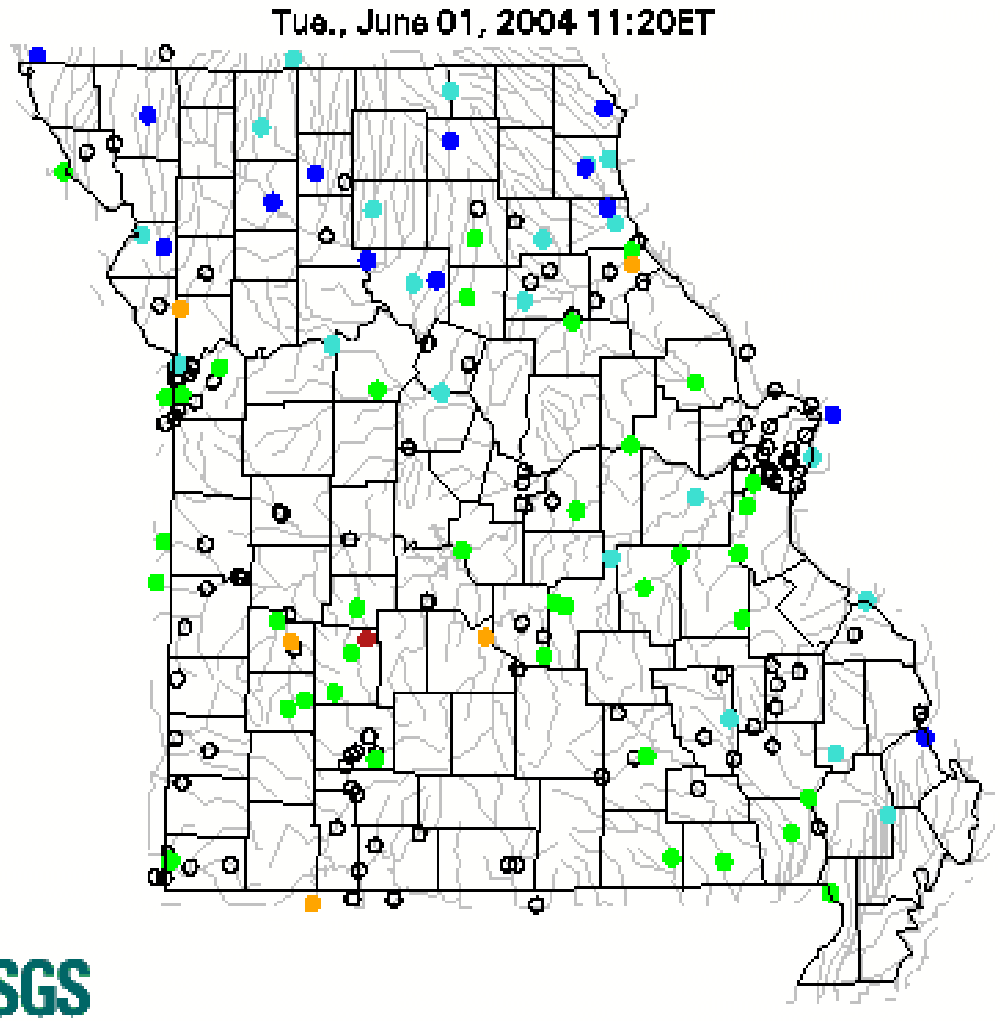


Provisional Data Subject to Revision

Precipitation, Percent of Normal:
Last 15, 30, 60 and 90 Days



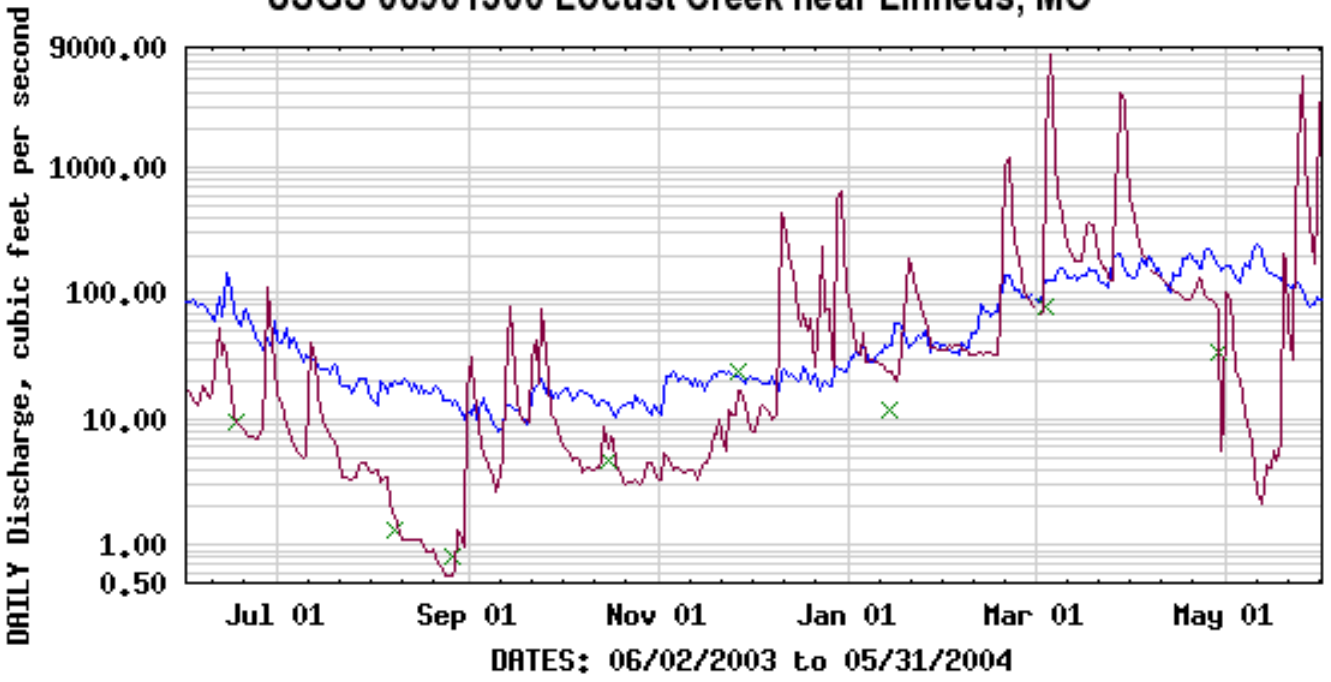
Map of real-time streamflow compared to historical streamflow for the day of the year (Missouri)



USGS

USGS

USGS 06901500 Locust Creek near Linneus, MO



EXPLANATION

— MEDIAN DAILY STREAMFLOW BASED ON 46 YEARS OF RECORD

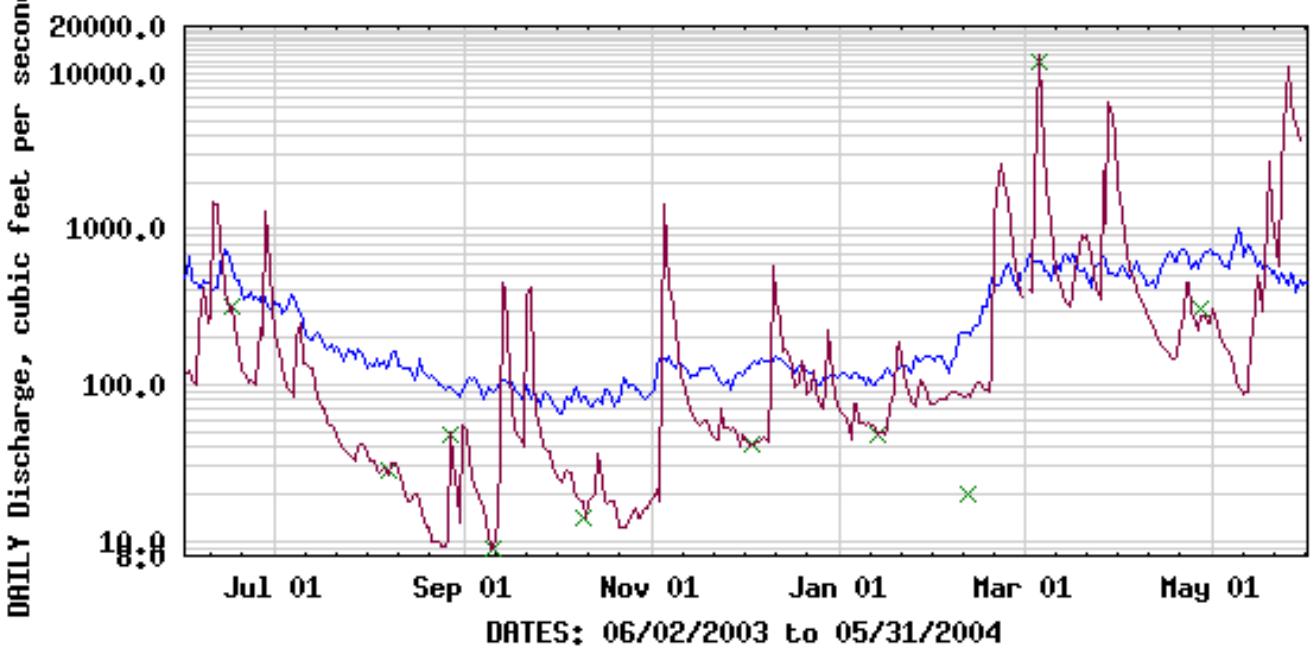
× MEASURED Discharge

— DAILY MEAN DISCHARGE

Provisional Data Subject to Revision

USGS

USGS 06899500 Thompson River at Trenton, MO



EXPLANATION

MEDIAN DAILY STREAMFLOW BASED ON 75 YEARS OF RECORD

MEASURED Discharge

DAILY MEAN DISCHARGE

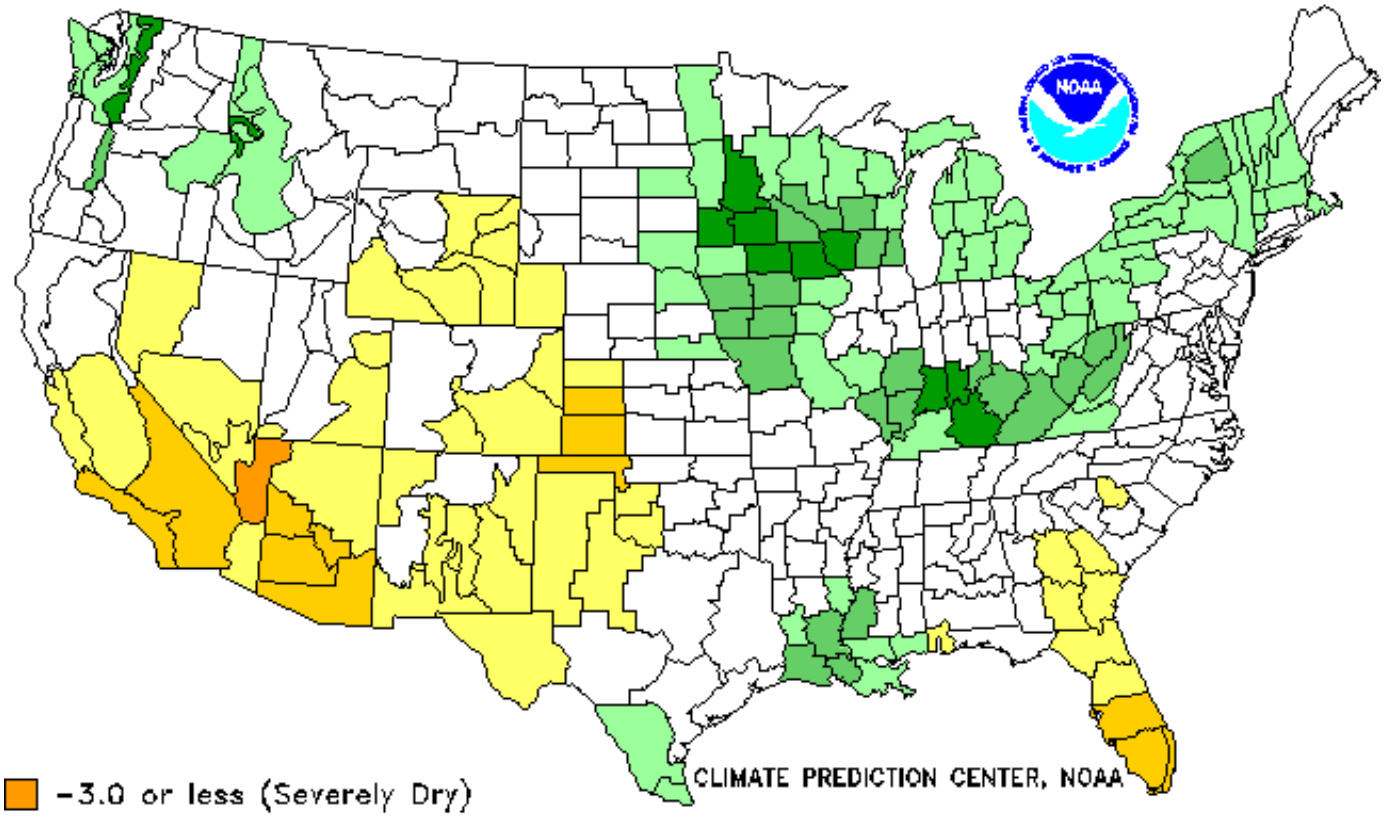
Provisional Data Subject to Revision

Thompson River at Trenton May ‘O4

Crop Moisture Index by Division

Weekly Value for Period Ending 29 MAY 2004

Short Term Need vs. Available Water in 5 Ft Profile

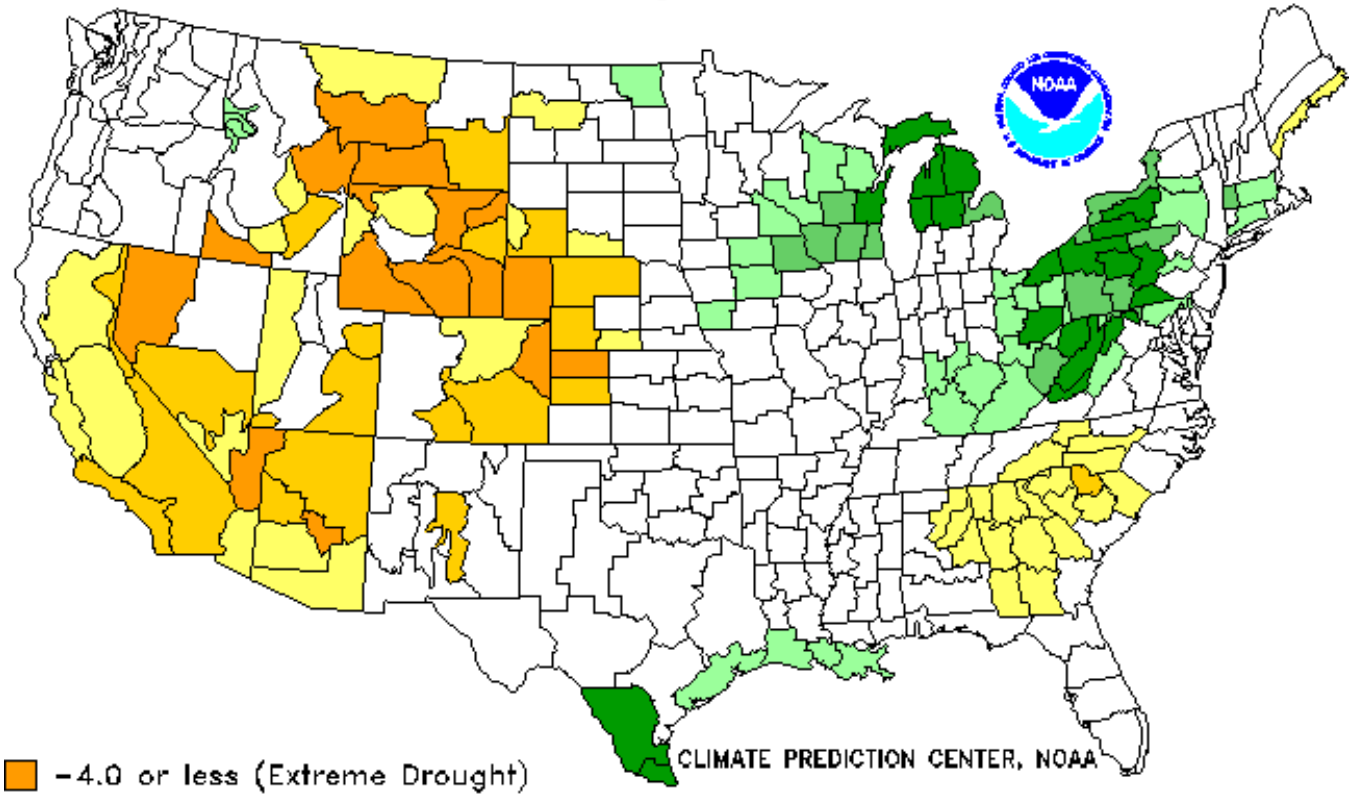


- −3.0 or less (Severely Dry)
- −2.0 to −2.9 (Excessively Dry)
- −1.0 to −1.9 (Abnormally Dry)
- −0.9 to +0.9 (Slightly Dry/Favorably Moist)
- +1.0 to +1.9 (Abnormally Moist)
- +2.0 to +2.9 (Wet)
- +3.0 and above (Excessively Wet)

Drought Severity Index by Division

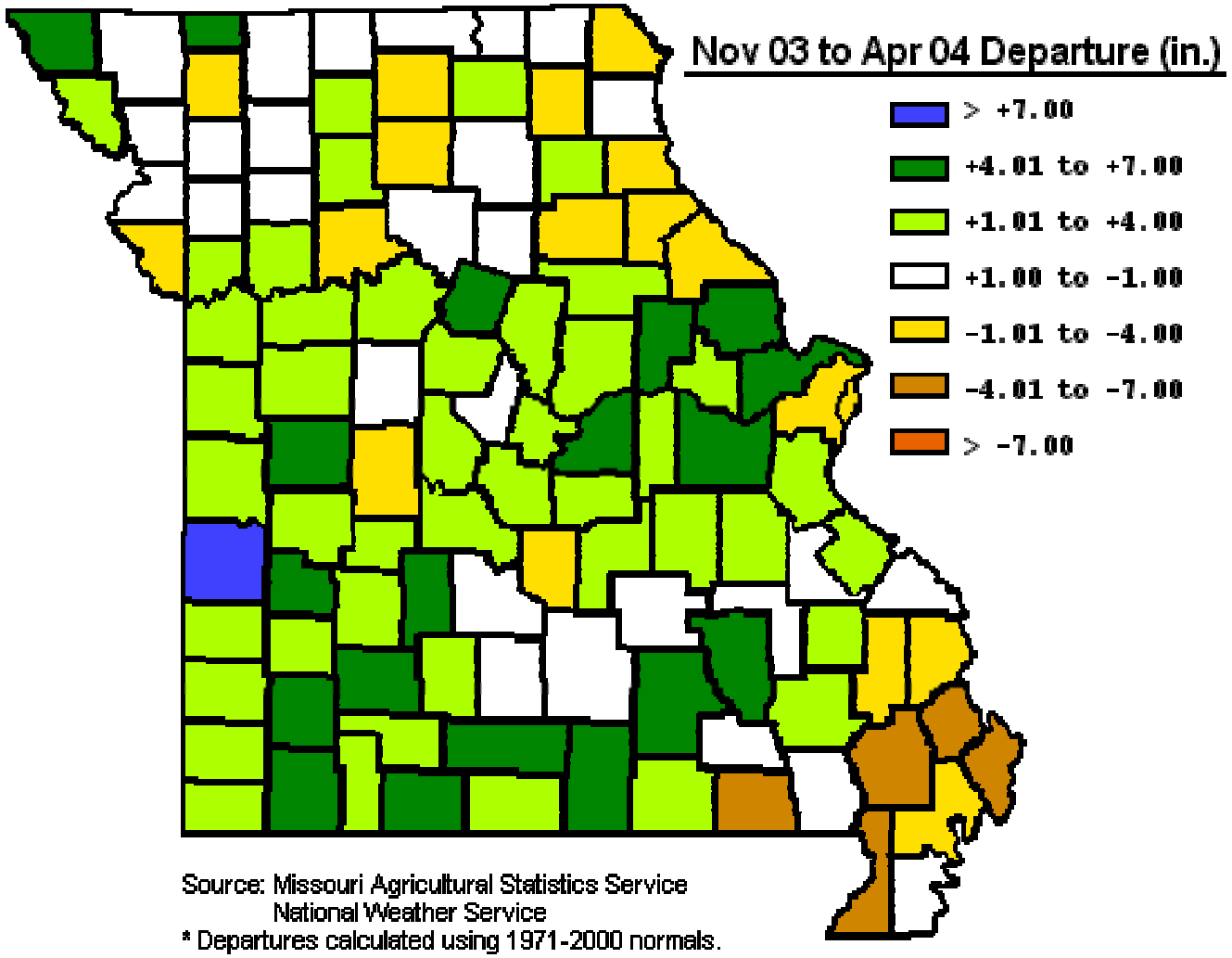
Weekly Value for Period Ending 29 MAY 2004

Long Term Palmer



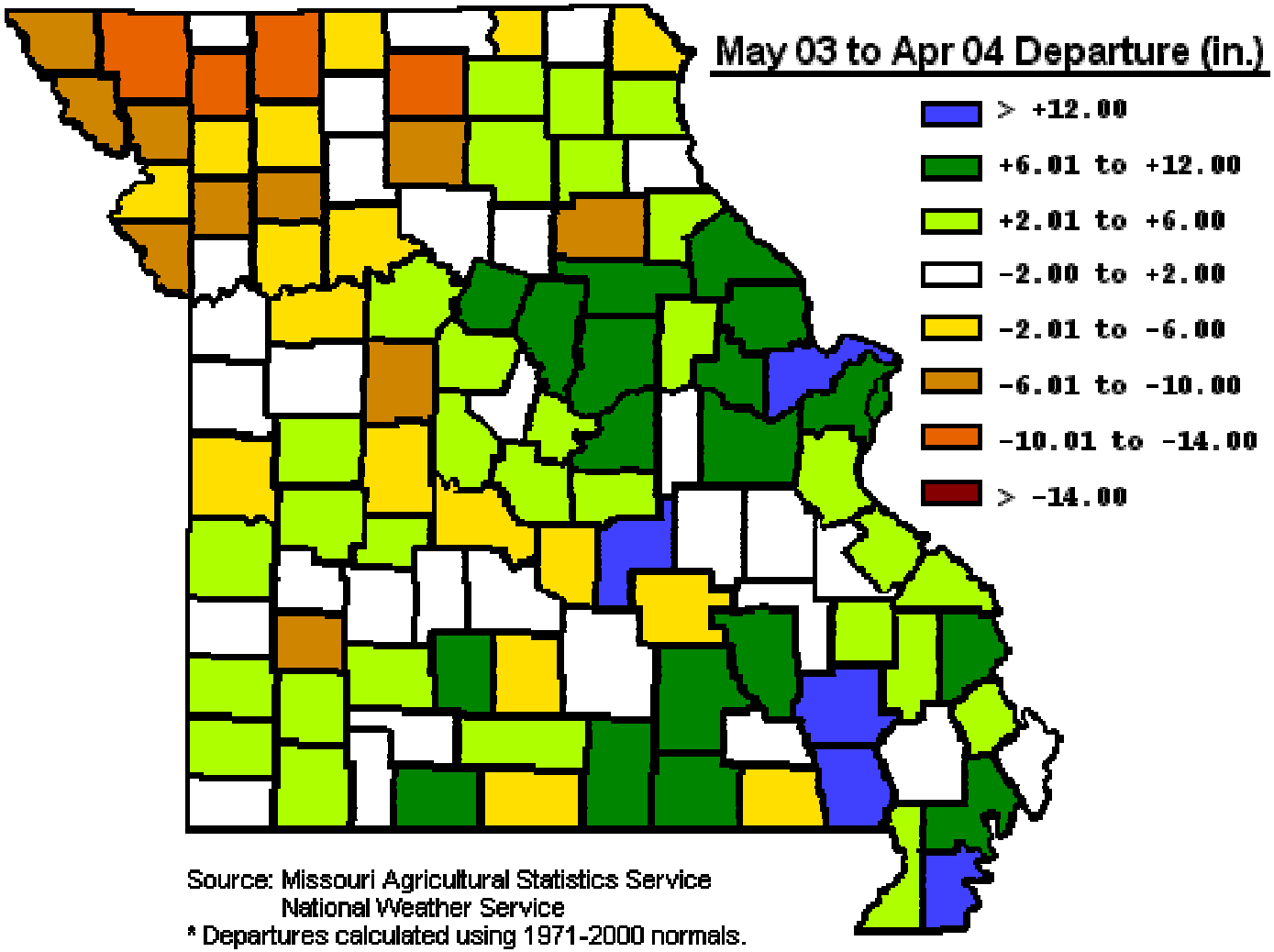
- -4.0 or less (Extreme Drought)
- -3.0 to -3.9 (Severe Drought)
- -2.0 to -2.9 (Moderate Drought)
- -1.9 to +1.9 (Near Normal)
- +2.0 to +2.9 (Unusual Moist Spell)
- +3.0 to +3.9 (Very Moist Spell)
- +4.0 and above (Extremely Moist)

Missouri County Precipitation Departure From Normal*
For November 2003 to April 2004



Source: Missouri Agricultural Statistics Service
National Weather Service
* Departures calculated using 1971-2000 normals.

Missouri County Precipitation Departure From Normal*
For May 2003 to April 2004

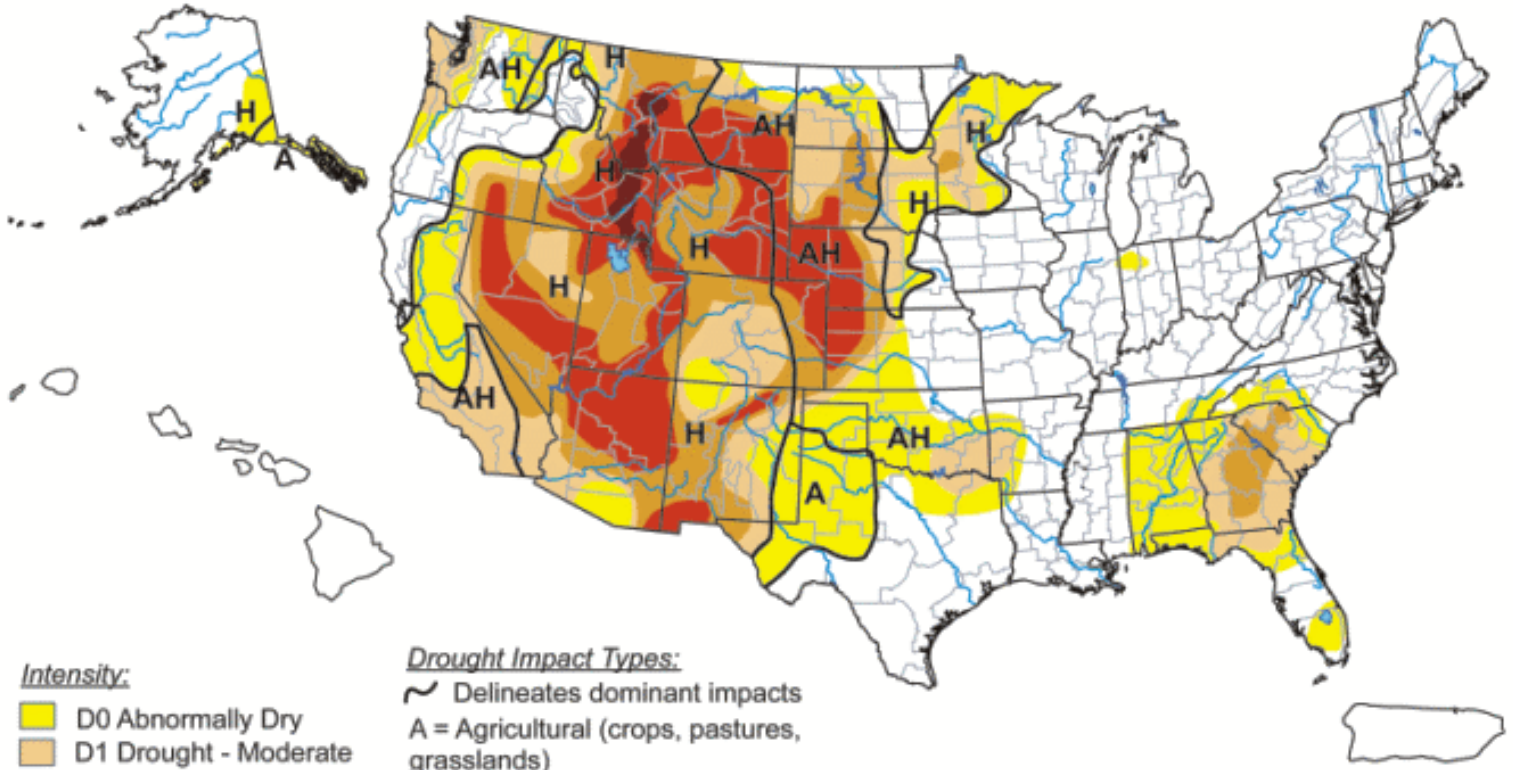


Source: Missouri Agricultural Statistics Service
National Weather Service
* Departures calculated using 1971-2000 normals.

Harrison County Farm Pond, May ‘04

U.S. Drought Monitor

May 25, 2004
Valid 8 a.m. EDT



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:

~ Delineates dominant impacts
A = Agricultural (crops, pastures, grasslands)
H = Hydrological (water)
A,H = Agricultural and Hydrological
(No type = Both impacts)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

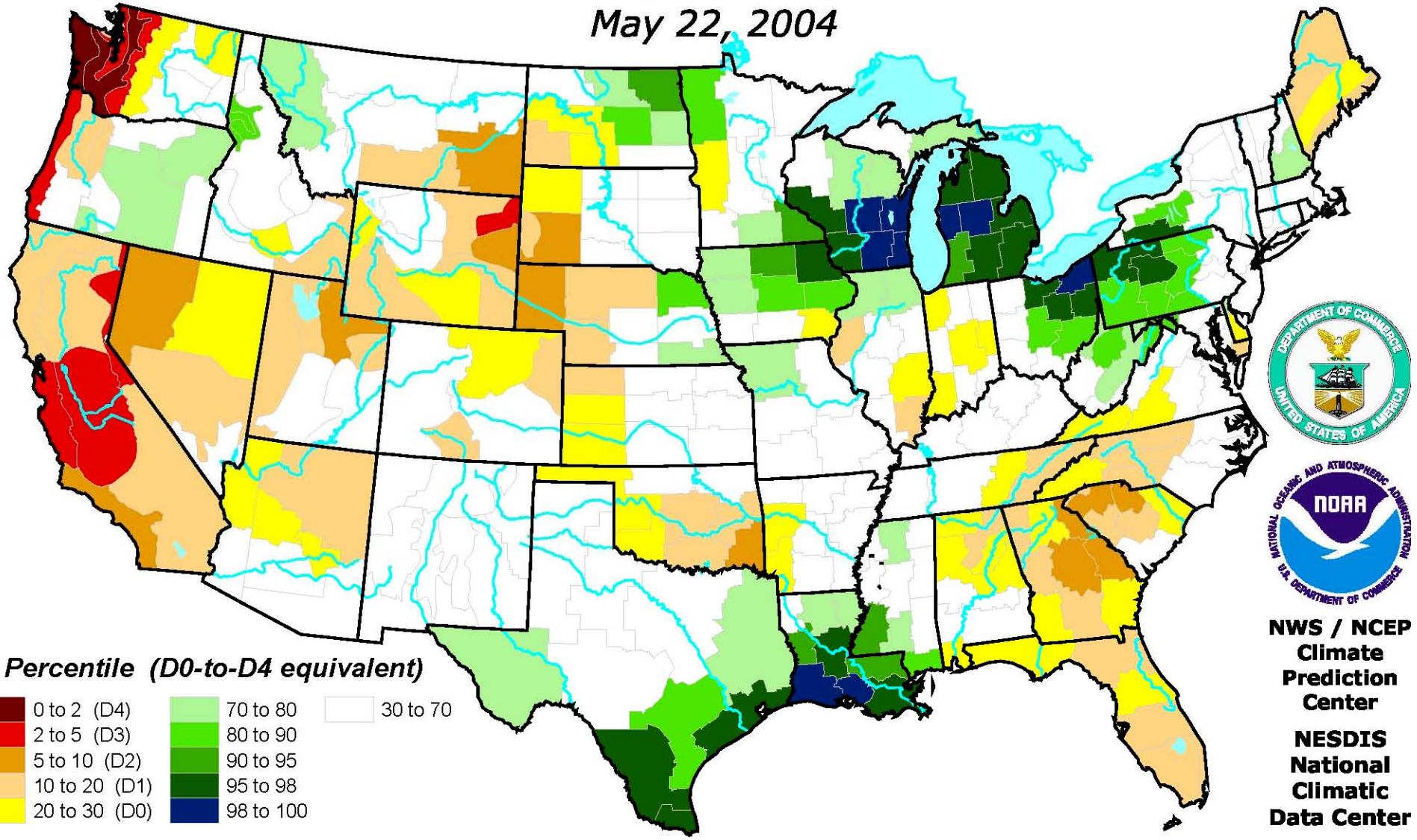
USDA National Drought Mitigation Center

Released Thursday, May 27, 2004

Author: Rich Tinker, CPC/NCEP/NWS/NOAA

Objective *Short-Term* Drought Indicator Blend Percentiles

May 22, 2004



Percentile (D0-to-D4 equivalent)

0 to 2 (D4)	70 to 80	30 to 70
2 to 5 (D3)	80 to 90	
5 to 10 (D2)	90 to 95	
10 to 20 (D1)	95 to 98	
20 to 30 (D0)	98 to 100	

NWS / NCEP Climate Prediction Center

NESDIS National Climatic Data Center

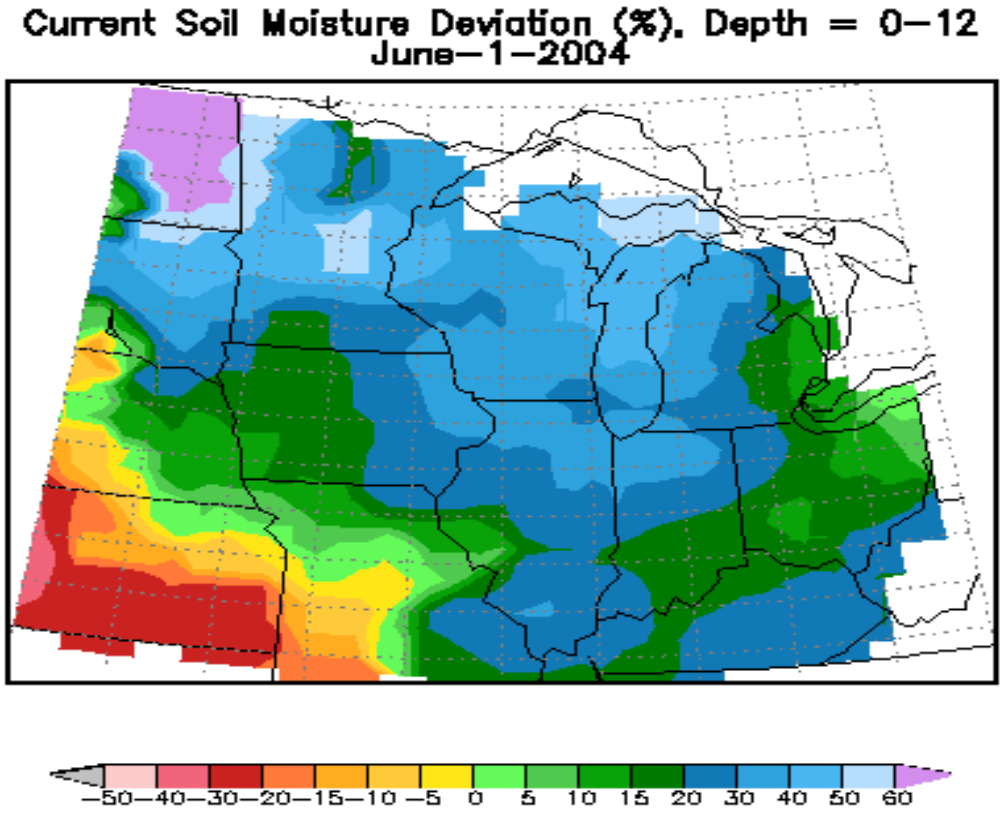
Inputs (as percentiles):

35% Palmer Z-Index
25% 3-Month Precipitation
20% 1-Month Precipitation
13% CPC Soil Moisture Model
7% Palmer Drought Index

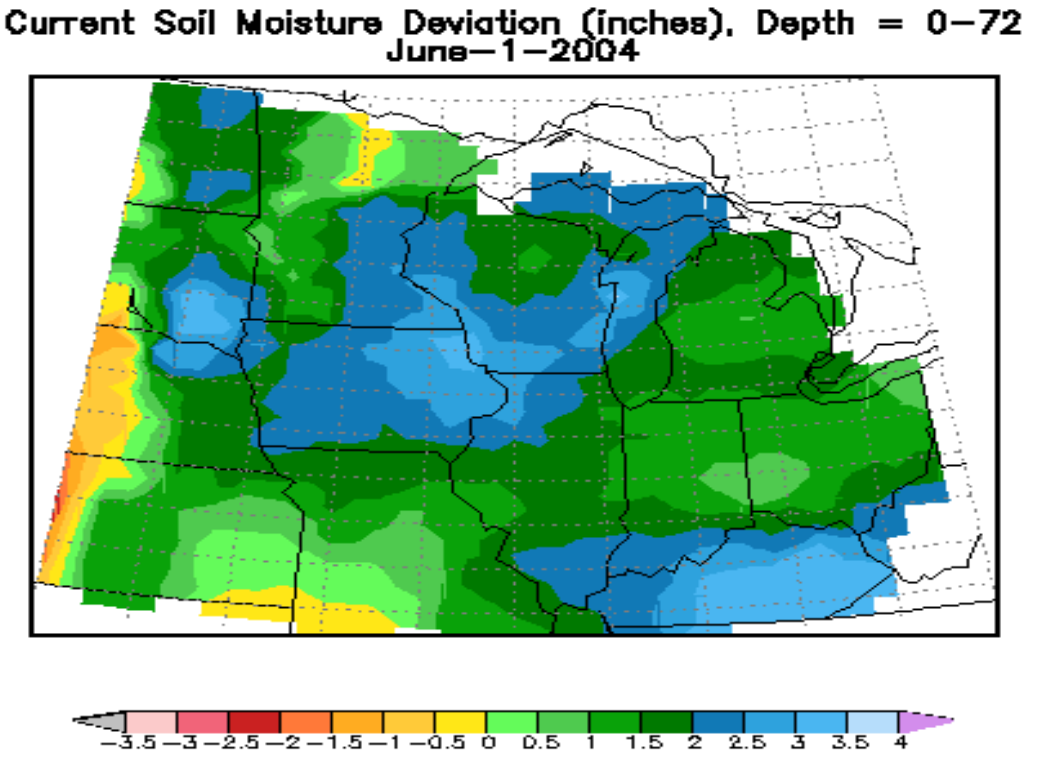
This map approximates impacts that respond to precipitation over several days to a few months, such as agriculture, topsoil moisture, unregulated streamflows, and most aspects of wildfire danger. The relationship between indicators and impacts can vary significantly with location and season. Do not interpret this map too literally.

This map is based on preliminary climate division data. Local conditions and/or final data may differ. See the detailed product suite description for more details.

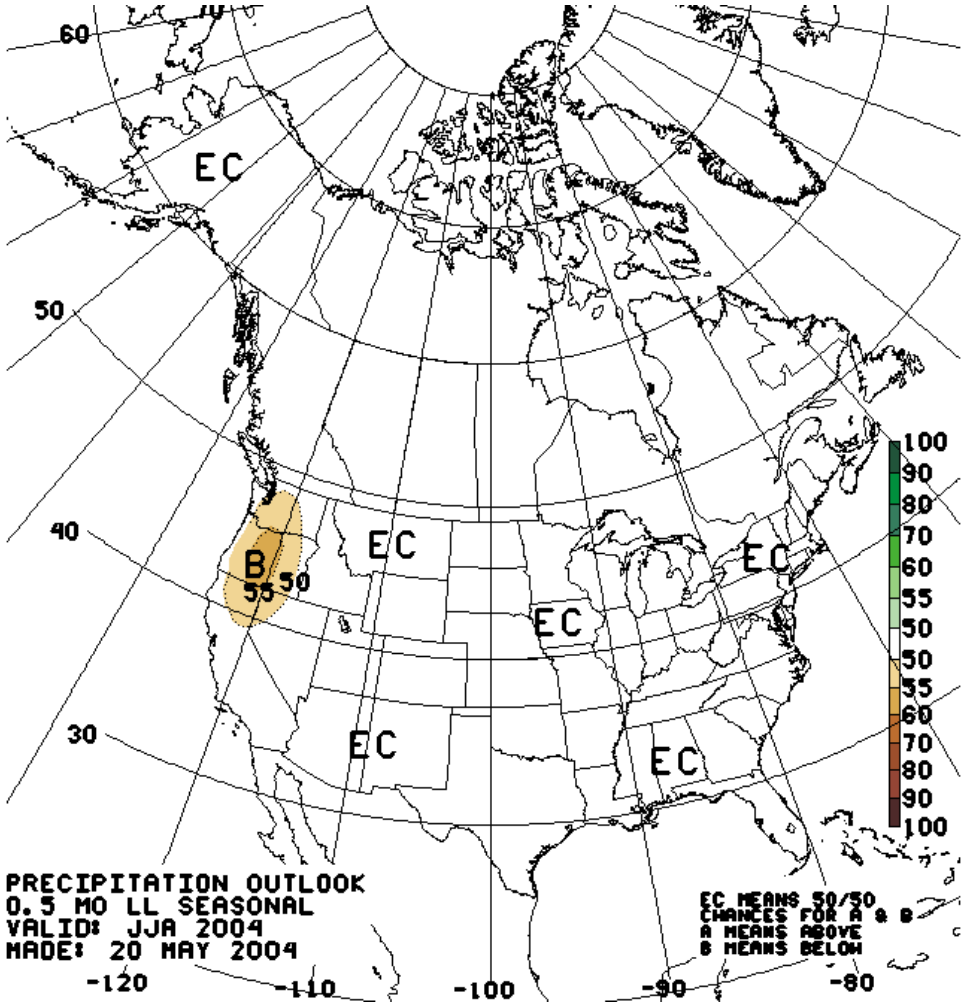
Current Soil Moisture Deviation (%). Depth = 0-12
June-1-2004



Current Soil Moisture Deviation (%). Depth = 0-72
June-1-2004



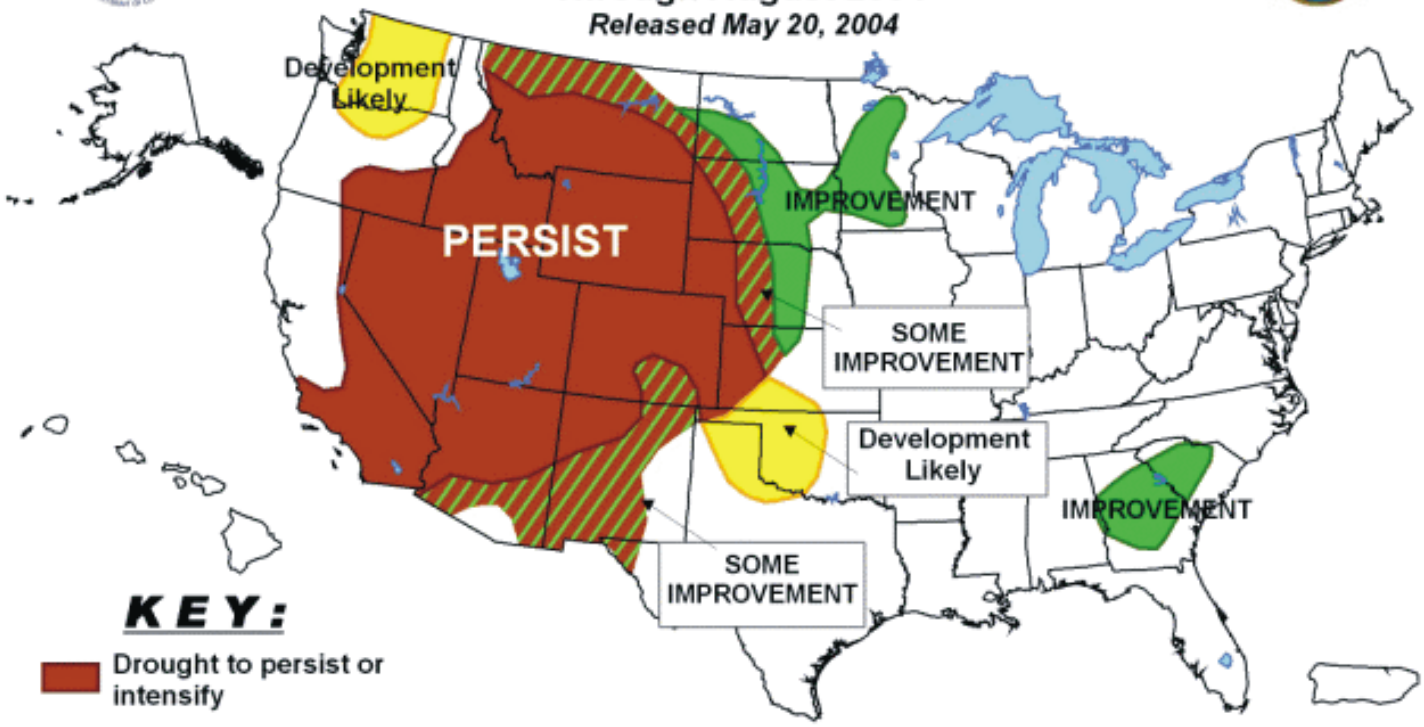
Seasonal Precipitation Outlooks



U.S. Seasonal Drought Outlook

Through August 2004

Released May 20, 2004



KEY:

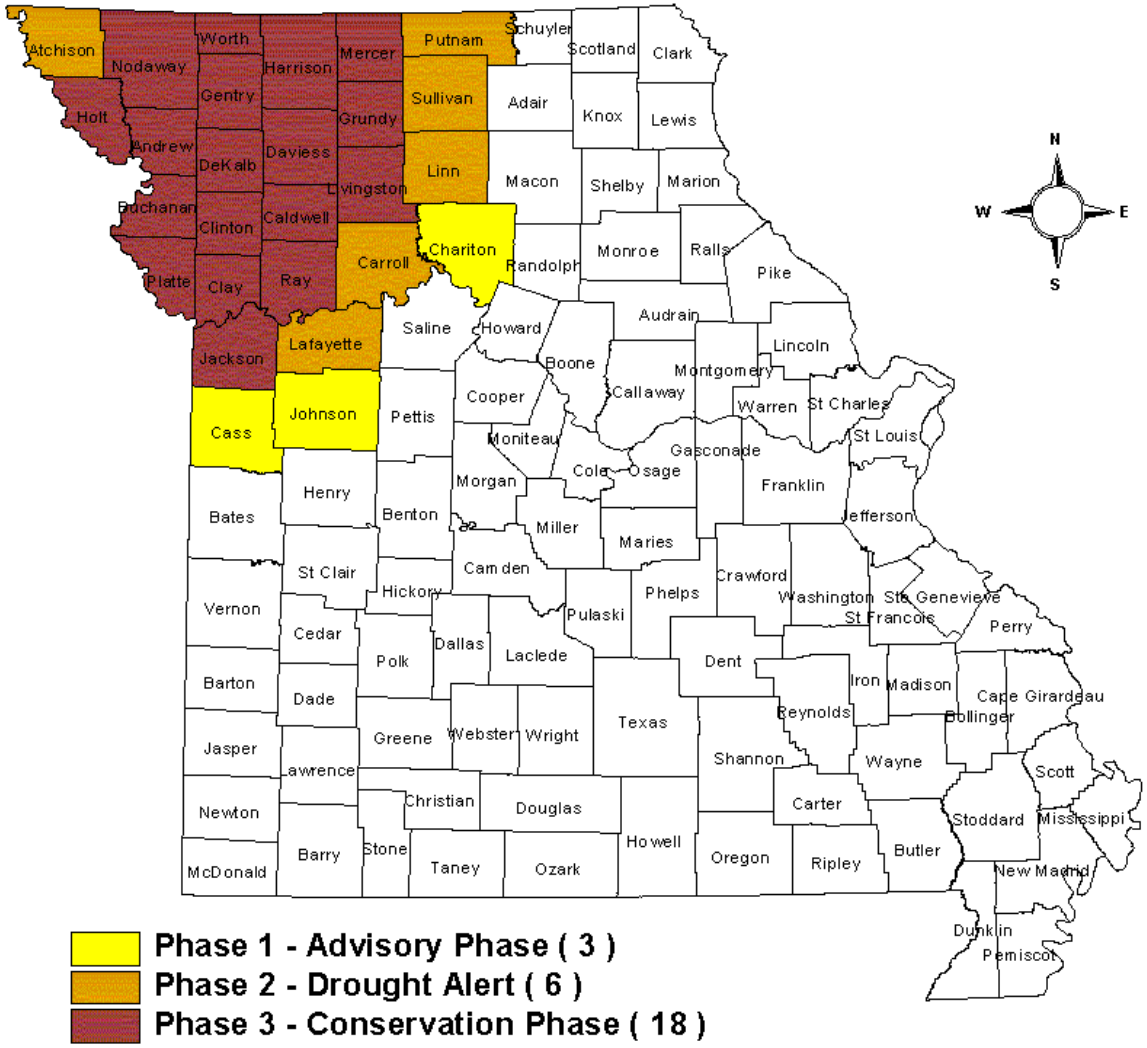
- Drought to persist or intensify
- Drought ongoing, some improvement
- Drought likely to improve, impacts ease
- Drought development likely

Depicts general, large-scale trends based on subjectively derived probabilities guided by numerous indicators, including short and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more that a few days in advance, so use caution if using this outlook for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are schmatically approximated from the Drought Monitor (D1 to D4). For weekly drought updates, see the latest Drought Monitor map and text.

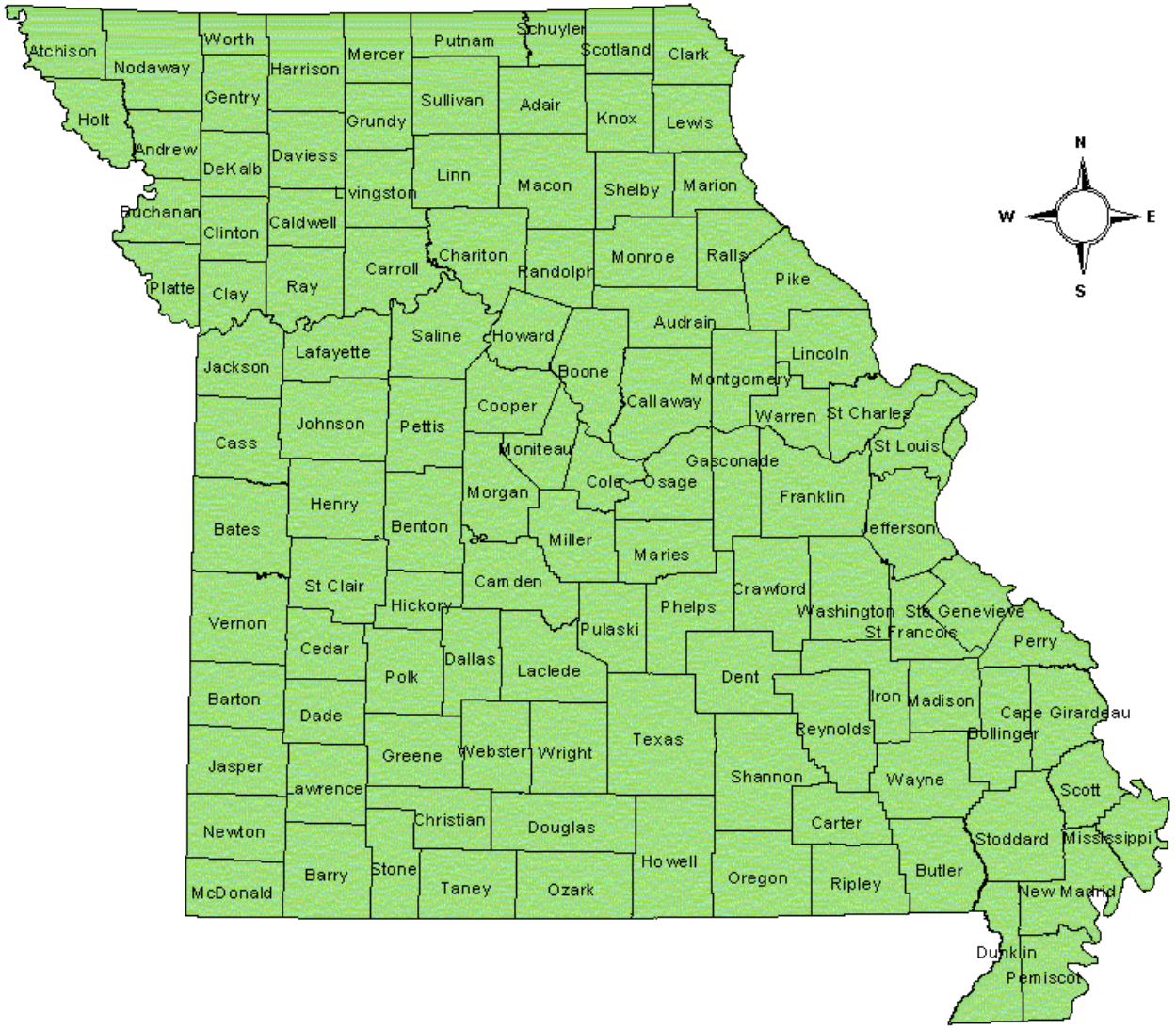
Drought Assessment Committee (DAC)

June 3, 2004

Drought Condition Status (March 3, 2004)

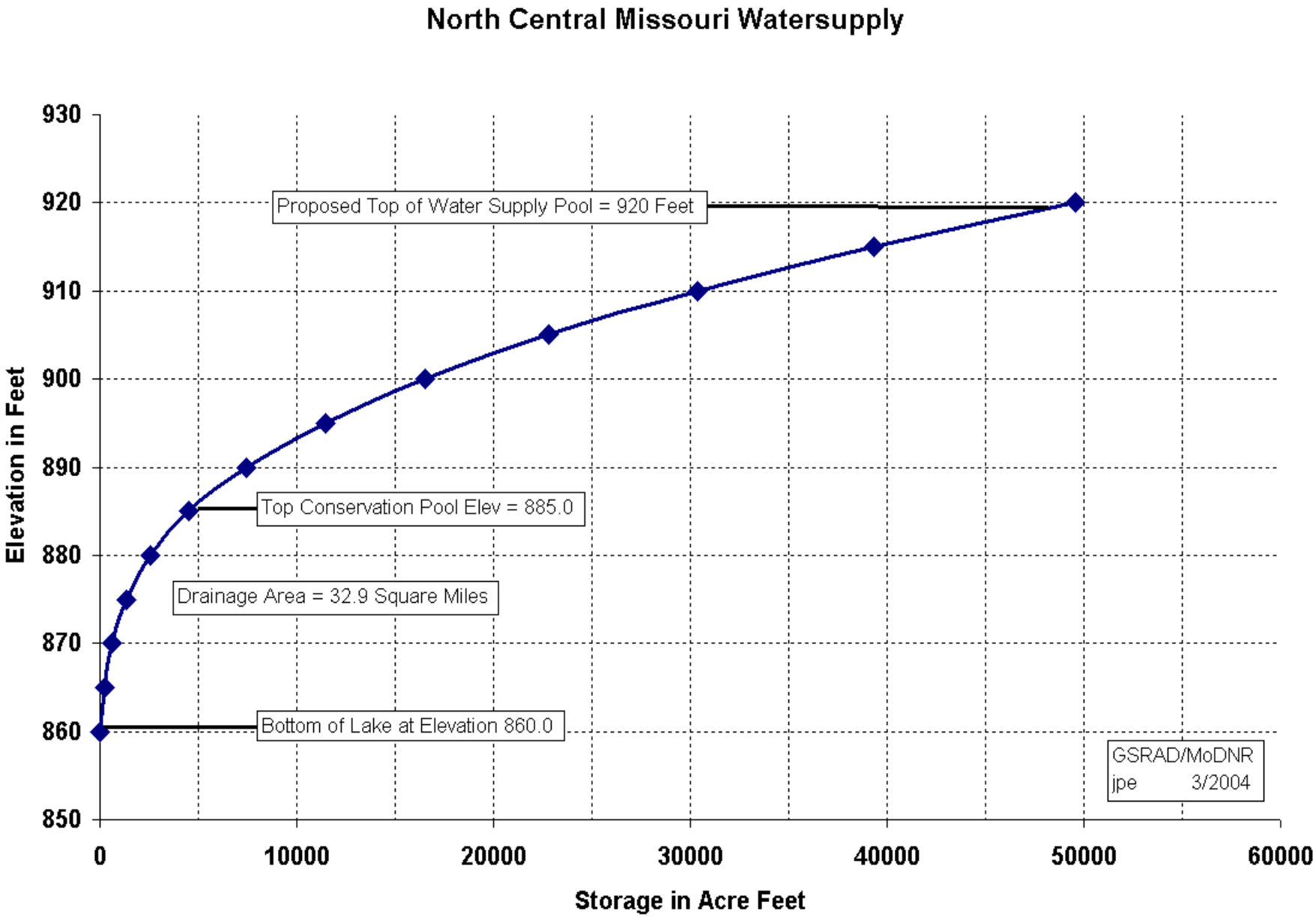


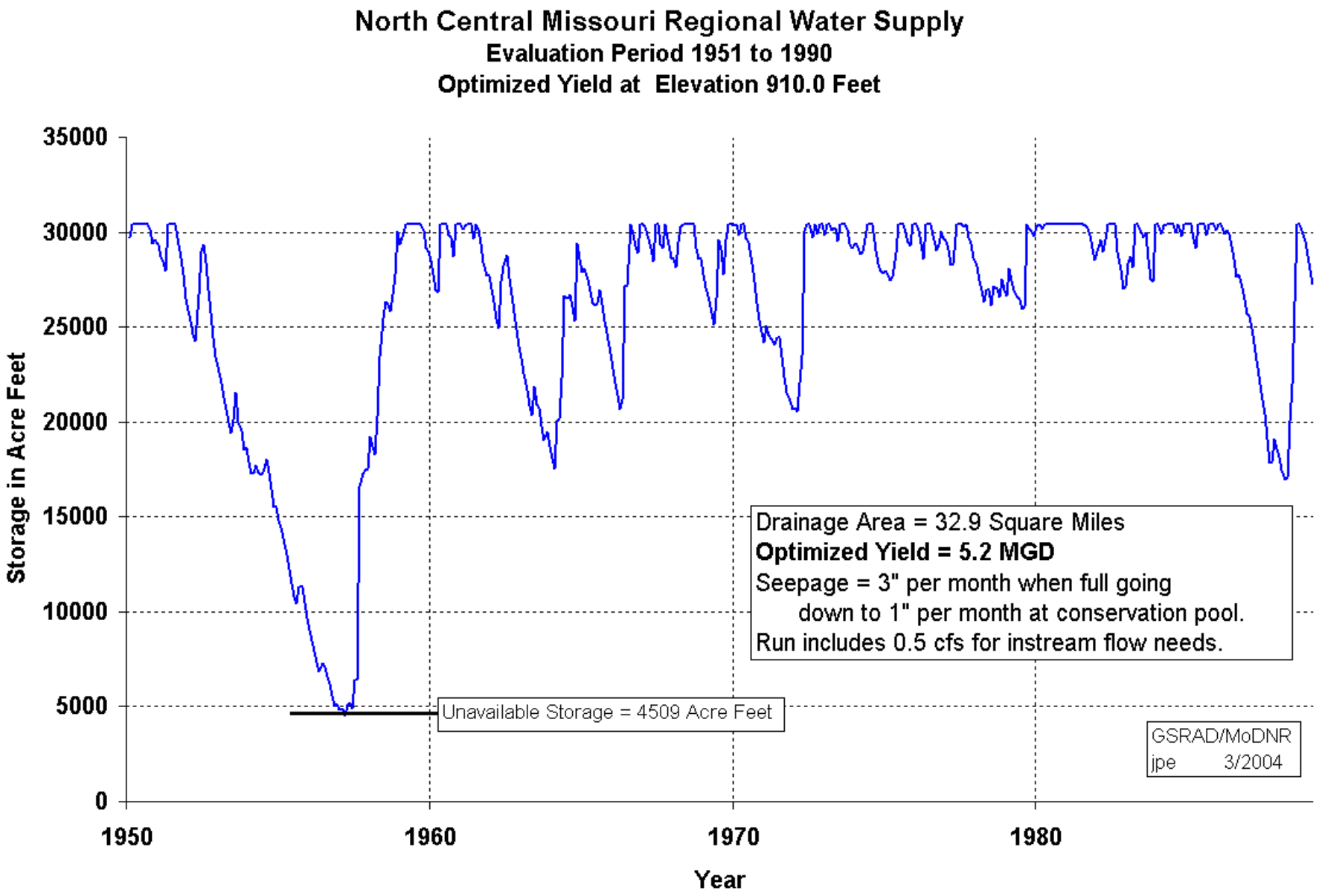
Drought Condition Status (June 3, 2004)

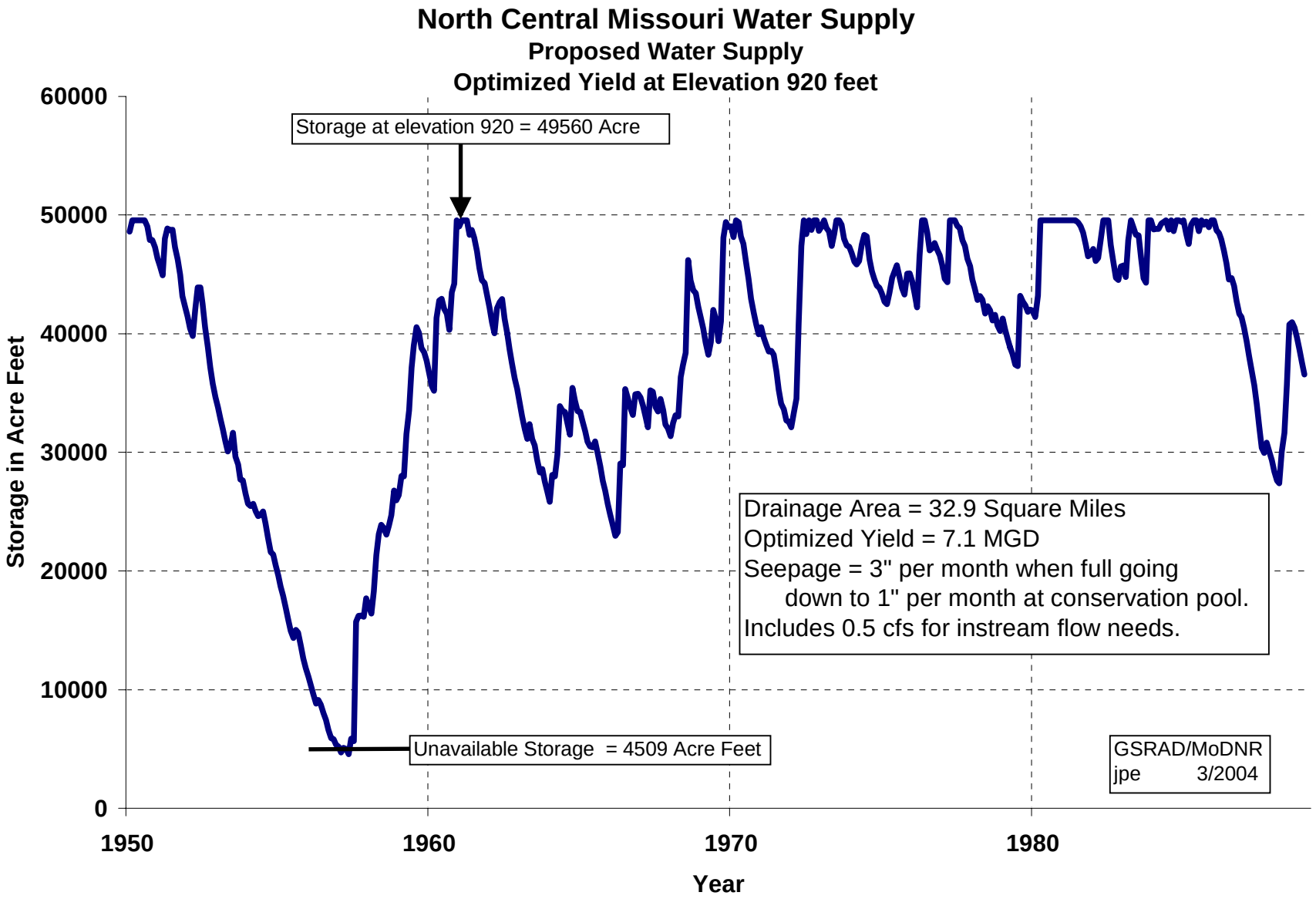


County Boundary

North Central Missouri Water Supply Lake RESOP Run: Demand = 6.75 MGD


North Central Missouri Watersupply
930
920
910
900
890
880
870
860
850
Elevation in Feet
Proposed Top of Water Supply Pool = 920 Feet
Top Conservation Pool Elev = 885.0
Drainage Area = 32.9 Square Miles
Bottom of Lake at Elevation 860.0
GSRAD/MoDNR
jpe 3/2004
0
10000
20000
30000
40000
50000
60000
Storage in Acre Feet

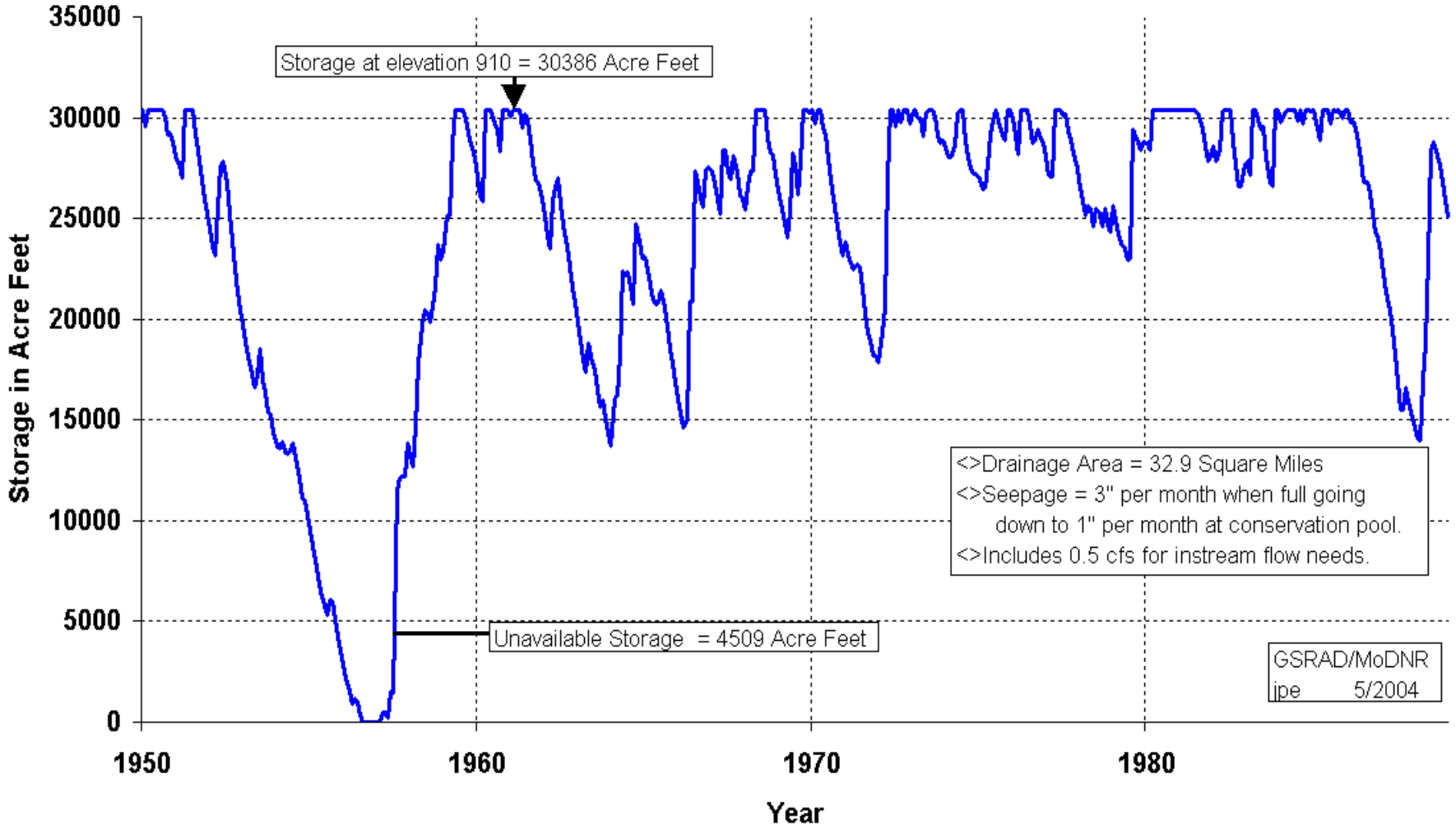

North Central Missouri Regional Water Supply
Evaluation Period 1951 to 1990
Optimized Yield at Elevation 910.0 Feet
Storage in Acre Feet
35000
30000
25000
20000
15000
10000
5000
0
1950
1960
1970
1980
Year
Drainage Area = 32.9 Square Miles
Optimized Yield = 5.2 MGD
Seepage = 3" per month when full going
down to 1" per month at conservation pool.
Run includes 0.5 cfs for instream flow needs.
Unavailable Storage = 4509 Acre Feet
GSRAD/MoDNR
jpe 3/2004


North Central Missouri Water Supply
Proposed Water Supply
Optimized Yield at Elevation 920 feet
Storage at elevation 920 = 49560 Acre
Drainage Area = 32.9 Square Miles
Optimized Yield = 7.1 MGD
Seepage = 3" per month when full going
down to 1" per month at conservation pool.
Includes 0.5 cfs for instream flow needs.
Unavailable Storage = 4509 Acre Feet
GSRAD/MoDNR
jpe 3/2004
Storage in Acre Feet
60000
50000
40000
30000
20000
10000
0
1950
1960
1970
1980
Year

North Central Missouri Water Supply

Spillway elevation 910.0

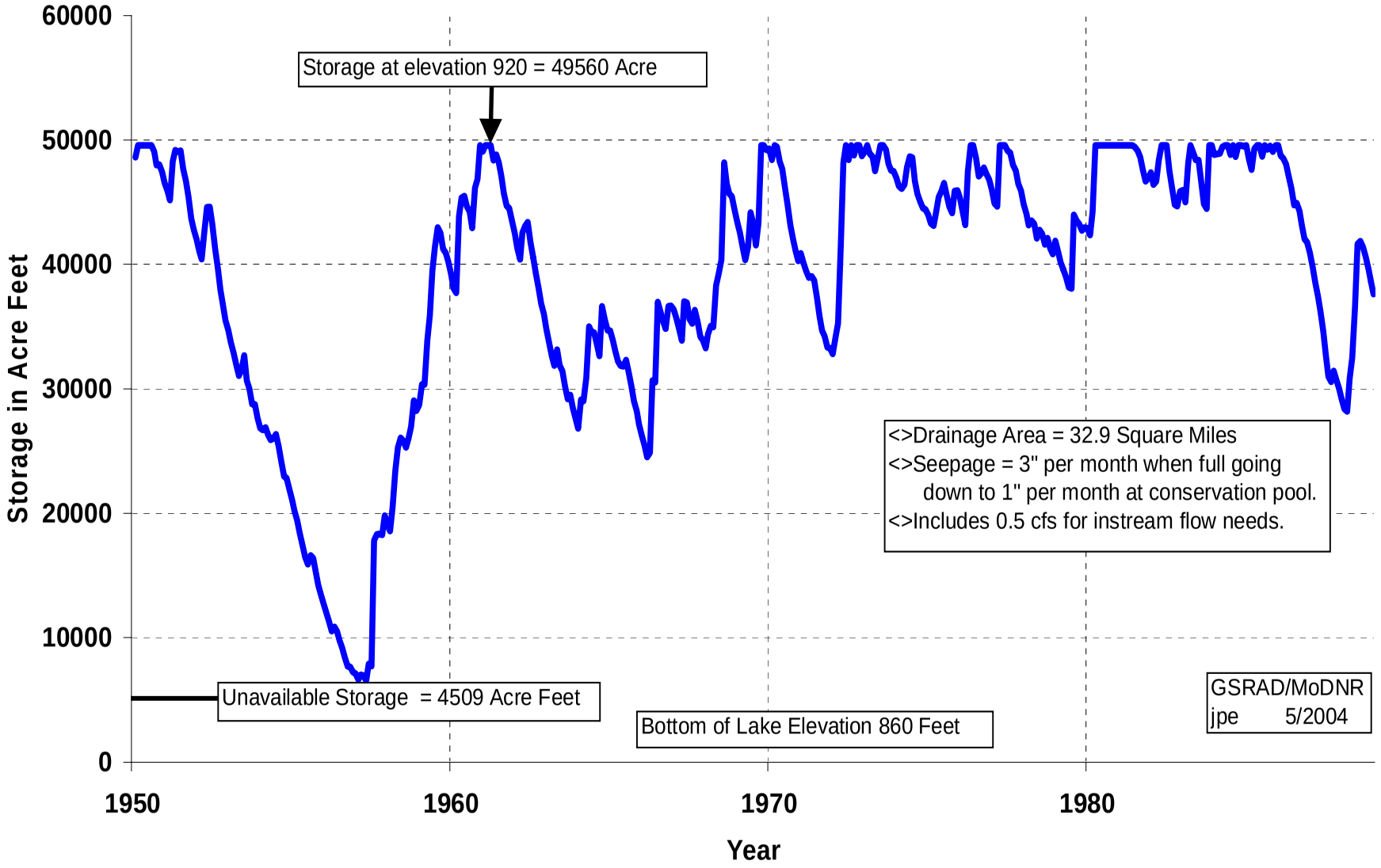
Demand = 6.75 MGD



North Central Missouri Water Supply

Spillway Elevation = 920 Feet

Demand = 6.75 MGD



North Missouri Water Supply

Demand = 6.75 MGD